

WRITTEN ABSTRACT

A NO_x removing device 4 having NO_x absorbing capacity and ammonia retaining capacity is provided in an exhaust pipe 2 of an internal combustion engine 1. A reforming catalyst 3 is disposed upstream of the NO_x removing device 4. The reforming catalyst 3 generates hydrogen and carbon monoxide by the steam reforming reaction, when the exhaust gases are in the reducing state. Hydrogen and carbon monoxide generated by the reforming catalyst 3 are supplied to the NO_x removing device 4, and contribute to generation of ammonia. The generated ammonia is retained in the NO_x removing device 4 and reduces NO_x in exhaust gases when the exhaust gases are in the oxidizing state.